may be incorporated with it, as ether, turpentine, chloroform, benzine, etc., while it may be mixed also with other articles, as phenic acid, arsenious acid, powdered cantharides, alcoholic extract of mezereon, alcoholic extract of belladonna, and of other narcotic extracts, corrosive sublimate, opium, permanganate of potassa, salts of morphia, iodide of potassium, etc.—*La Tribune Médicale*, 5 Oct. 1873, from the *Nieu tijdschrift voor de pharm. in Nederland.*

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

12. *New Researches on Inflammation.*—Prof. COHNHEIM has recently published his new researches on inflammation. In summing up the results of his observations he expresses the opinion that the essence of inflammation is not to be found in either the dilatation of the vessels, in the increased rapidity of the flow of blood, or in the subsequent contraction of the vessels; but in some local change in the walls of the vessels of the affected part. What this change is, however, he is unable to say, as he has not succeeded in finding any structural alteration.—*British Med. Journ.*, Sept. 27, 1873.

13. *Ascertained Facts regarding Diabetes and Hydruria.*—ECKHARDT gives a short *résumé* of the facts which have been experimentally ascertained regarding diabetes and hydruria, in the *Pester Medicinisch-Chirurgische Presse*, February 18. He remarks that but little has yet been made out with certainty, while uncertainties are numerous. Diabetes may be produced experimentally in two ways, either by operating directly on certain parts of the nervous system, or by introducing certain substances into the blood. The parts of the nervous system through which it can be produced may be first considered in order. 1. The cerebellum. Becker (V. Siebold's and Köllicker's *Zeitschrift für Wiss. Zool.*, vol. v. p. 150) found that injury to the posterior part of the pons caused sugar to appear in the urine. Eckhardt himself has not repeated this experiment, but he has exposed the posterior part of the middle lobe of the cerebellum and injured it either by puncture or by the excision of a small superficial portion. Such injuries were followed by diabetes in rabbits but not in dogs. 2. The superior cervical ganglion. Pavy states (*Proceedings of the Royal Society*, 1859, p. 27), that extirpation of this ganglion produces well-marked diabetes in dogs and rabbits. Eckhardt cannot confirm this statement, although he has repeated the experiment many times, especially upon rabbits. He is unable to explain the discrepancy between his results and those of Pavy. 3. The lowest cervical ganglion, the first dorsal ganglion, and the rami vertebrales which run along the vertebral artery and end in the ganglion at the lower part of the neck. In order to prevent misunderstanding, Eckhardt gives a short description of the anatomy of these parts in the rabbit and dog. In the rabbit there is a ganglion just above the subclavian artery. This is termed the ganglion stellatum by Ludwig, Thiry, V. Bezold, and Bever, and it corresponds to the middle cervical ganglion in man. Below this, a little above the first rib or stretching behind it, lies another ganglion, which is often divided into two. It corresponds to the lowest cervical ganglion in man, termed by many anatomists the first dorsel ganglion. Then follow the first, second, and succeeding dorsal ganglia, in the first, second, and following intercostal spaces. In the dog there is a ganglion on the sympathetic trunk above the subclavian artery, which corresponds in its position to the middle cervical ganglion of men and rabbits, and is termed by Cyon and Aladoff the last cervical ganglion. Another ganglion, which these authors call the first dorsal or ganglion stellatum, lies behind the first rib, and projects into the first intercostal space, and is connected with the previous one by two fibres, which pass one on each side of the subclavian artery, and form the annulus of Vieussens. It is thus evident that the expression "ganglion stellatum," as used by different authors, does not

refer to the same ganglion in the dog and rabbit. Eckhardt himself avoids it altogether. Perhaps it may be possible, by careful dissection, to distinguish several ganglia in the stellate ganglionic mass of the dog, so as to render the analogy complete between it and the nervous disposition in the rabbit. Into this ganglion in the dog enter the two fibres of the annulus of Vieussens, and also the vertebral branches which lie close to the vertebral artery. (On this point Eckhart recommends a comparison of the differences between the statements he makes in his *Beiträge*, vol. vii. p. 16, and those of Cyon and Aladoff.)

The following experiments have been made on the parts already mentioned, with the following results. Eckhardt himself first observed that, in rabbits, a distinct diabetes was produced by a cut into the last cervical, or first or second dorsal ganglion. In no case did he observe an increase in the amount of urine accompany the appearance of sugar. No distinct diabetes was observed when the fibres connecting the ganglia were divided, instead of cutting into the ganglia themselves. He has only once performed a similar experiment in dogs. It consisted in mechanical irritation of the first thoracic ganglion, which was followed by diabetes. He has never operated upon the ganglion which lies above the subclavian artery. He mentions this expressly, because it appears to him that he has been misunderstood upon this point. Cyon and Aladoff have incised and excised the lowest cervical and ganglion stellatum in the dog, and have found diabetes in all cases. They have also divided the annulus of Vieussens and the vertebral branches, and, after doing so, they have generally observed diabetes. Eckhardt has also divided the vertebral branches, but has never obtained a positive result. He has no idea regarding the cause of the difference between the results of such a simple experiment.

4. The splanchnic in the abdominal cavity. It was stated several years ago that simple division of this nerve induced diabetes. In the old experiments to which Eckhardt refers, the nerve was either divided subcutaneously in the thoracic cavity, or the method of cutting it was not described, Eckhardt has not repeated the experiments in this form, because he does not consider that one is justified in assuming that the ganglia of the sympathetic cord have no influence over the result; and this is tacitly done when the sympathetic is divided subcutaneously in the thorax, as it is then impossible to be sufficiently certain that the ganglia have not been injured. He therefore caused Plock to expose the splanchnic after its passage through the diaphragm into the abdomen, and divide it at this point where it is free from ganglia. The results of this experiment were uncertain, as sometimes diabetes occurred, but generally it did not. On repeating it himself Eckhardt never found true diabetes either in rabbits or dogs.

5. The cœliac ganglion. Extirpation of this ganglion was stated by Munk to cause diabetes, but Eckhardt finds that it very rarely does so. He has himself shown that operations on the abdomen sometimes cause diabetes, although no particular nerve has been injured, and believes that in these cases, where Munk would have observed it, it would have occurred if the other parts of the operation had been done and the ganglion itself left uninjured.

Another way of producing diabetes is by introducing various substances into the body instead of injuring parts of the nervous system. Curare was shown by Bernard to have the power of doing this, but Eckhardt finds that it only does so when artificial respiration is kept up sufficiently long to allow the animal to begin to recover. If it is stopped too soon or if the animal is kept completely paralyzed, diabetes does not occur. The inhalation of carbonic oxide produces diabetes in the dog, but not in the rabbit. Hydruria or increased secretion of urine appears in the dog along with the diabetes. Its amount and duration vary in different animals, but it generally lasts several hours. For three to ten minutes before the sugar appears and secretion of urine begins to increase, it is much diminished, or stops altogether. The same thing is noticed when diabetes is produced by puncture of the floor of the fourth ventricle.

A third method consists in the injection of solutions of salts directly into the circulation. The injection of a 1 per cent. solution of common salt never produces it in the dog and only rarely in rabbits. It greatly increases, however, the quantity of urine, and when sugar appears in the rabbit's urine a certain substance is found in it which reduces Fehling's solution but only at a higher temperature than sugar, and has no action on polarized light. The injection of carbonate, acetate, succinate, or valerianate of soda also produces diabetes in the rabbit. Only traces of diabetes can be obtained in the dog by the injection of acetate of soda. Division of the splanchnics before the injection prevents the appearance, or reduces to a minimum, of sugar or the other substance in the urine of rabbits, but the quantity of urine remains large. Eckhardt is inclined to ascribe the diabetes found by Tieffenbach after ligature of the abdominal aorta to the mere fact of its being an operation on the abdominal cavity.

In discussing hydruria or increased secretion of urine Eckhardt distinguishes between pure hydruria or that without diabetes, and that which is accompanied by it. The former sort appears in two forms. It either attains a certain but always moderate height in a short time, and remains at it for some time without any considerable variations, or it rapidly increases to a great extent, and then sinks rapidly again. The first form has hitherto been produced only by section of the splanchnics in the abdomen. Division of this nerve only increases the secretion from the kidney on the same side in the dog, and does not increase it at all in the rabbit. The increased secretion is probably due to the dilatation of the renal vessels which was shown by Ludwig and Thiry to be a consequence of section of the splanchnics. Eckhardt has been unable to confirm Bernard's statement that irritation of the vagus increases the secretion of urine, but agrees with him that irritation of the peripheral end of the divided splanchnic arrests secretion. He attributes this to contraction and closure of the renal vessels induced by the irritated nerve. The movements of the ureters are unaffected by the irritation. The second form of pure hydruria has not been so well investigated as the first, but it is much more interesting, as it agrees much more closely in the great quantity of urine secreted with the ordinary symptoms observed in man.

It may be produced, as Bernard has shown, by puncture of the fourth ventricle, but Eckhardt could not, like him, find a point the puncture of which invariably produced hydruria without sugar. It is quite true that one sometimes gets the result observed by Bernard after puncture of the fourth ventricle, but it is not always necessary to touch the point mentioned by him, as hydruria may be produced by puncture of other spots in the neighbourhood, and sometimes when injury to that point produced hydruria with sugar instead of hydruria alone. When increased secretion alone is obtained it is always very great, but it does not last long. It is sometimes as much as eight or ten times greater than normal, while the increase after section of the splanchnics is generally only about double the normal. Eckhardt has also found that after touching the posterior part of the middle lobe of the cerebellum in rabbits with a 1.7 per cent. solution of potash or chloride of iron, hydruria appears lasting for less than two hours, and generally unaccompanied by sugar. Sometimes sugar appears in the urine also, but Eckhardt has succeeded in getting pure hydruria by dividing the nerves of the liver before injuring the cerebellum. Pure hydruria may also be caused by the injection of a 1 per cent. solution of common salt into the veins of a dog. The secretion increases very rapidly, and then quickly afterwards begins to fall with many oscillations. The increase is more marked when the splanchnic had been previously divided. If the injection of salt solution is continued, the secretion of urine is permanently increased. It is to be remarked that all means which produce the second kind of hydruria, either without or with sugar, continue to act after division of the splanchnics, and the increased secretion can be arrested by irritation of the peripheral extremity of the splanchnic.

As diabetes may occur without any increase whatever in the amount of urine —*e. g.*, in the rabbit—after injury to the ganglia already mentioned, and sometimes after puncture of the fourth ventricle, one would fancy, *à priori*, that it might be associated with one form of hydruria as well as another. But experiment shows that this is not the case, for diabetes is never associated with splanchnic-hydruria, but only with the other form.

In regard to the causes of hydruria, Eckhardt looks upon that which occurs after section of the splanchnic as due to increased flow of blood through the renal vessels, induced by their paralysis after the division of their vaso-motor nerves. Arrest of the secretion by irritation of the splanchnics is due to contraction of the vessels. The cause of the other kind of hydruria is doubtful, but it does seem to be due to raised blood-pressure and increased filtration from the kidney. When hydruria is produced in rabbits by injury to the cerebellum, the blood-pressure is not increased, and the secretion of urine is also greatly increased by the injection of a quantity of salt solution, which has not much influence on the blood-pressure. Eckhardt acknowledges that the blood-pressure in the aorta gives no indication of the pressure in the vessels concerned in the secretion of urine, but he considers it unlikely that such an equalization should take place between them and those of other parts of the body as to leave the pressure in the aorta unchanged. He, therefore, thinks that certain parts of the kidney increase the secretion from the blood, but whether it is the vessels of cells is uncertain. The second kind of paralysis, however, must be due to irritation and not to paralysis, as it would then be constant as after section of the splanchnic.

The cause of diabetes Eckhard thinks is still less clear. Sugar may be formed either in the liver or muscles. Its increased formation in diabetes probably takes place in the liver, for puncture of the fourth ventricle does not produce diabetes in frogs after removal of the liver, nor are those injuries to the encephalon in rabbits, which usually cause diabetes in rabbits, followed by it if the splanchnics have been cut. Injury to the middle lobe of the cerebellum also, which usually produces both hydruria and diabetes, was only followed by hydruria, if all the nerves of the liver had been previously cut. People have been satisfied by saying that the vessels of the liver were paralyzed ; but the facts on which this statement rests are disputed by Eckhardt, and he considers it opposed by the fact that the diabetes caused by operations soon passes off. Even if it were true, he does not see that the occurrence of diabetes is thereby explained.—*London Med. Record*, Oct. 22, 1873.

14. *Fatal Embolism by Fat.*—Prof. Bergmann, of Dorpat, contributes to the *Berliner Klinische Wochenschrift* (No. 33, Aug. 18, 1873) a case of fracture of the thigh which proved rapidly fatal, and in which the diagnosis made *intra vitam*, and verified at the necropsy, was embolism of the pulmonary capillaries by fat or oil.

This peculiar pathological condition was first described by E. Wagner, and its occurrence has since been frequently confirmed. At the time of its discovery the present author investigated the subject experimentally, and found that oil injected into the veins of animals will cause, according to the amount, either—1. Instant death by complete arrest of the pulmonary circulation; or 2. Death in six hours or less preceded by dyspnœa and hæmoptysis ; or 3. No effect whatever, the oil passing through the lungs, and being found, when the animal was killed, either in the liver or in the kidneys and urine. From these experiments Bergmann concluded that it was improbable that such a large amount of fat could at one time enter the veins of a living man, as to cause serious symptoms. He now confesses that in this view he was quite mistaken, as was proved by an observation made in A. Wagner's clinic, and by an investigation undertaken thereupon by Busch. A patient suffering from fracture of the tibia speedily died of coma preceded by increasing debility; and the microscope revealed, in the capillaries and small arteries of every part of the body, large numbers of arborescent fat-drops perfectly clear and uncoloured. Busch's investigation took the form of a demonstration that the source of the oil in such a case is undoubtedly the fat of the medullary canal of the fractured bone, for he found in the lungs drops of cinnabar-coloured oil which he had injected into the medullary canal.

The case which Bergmann now reports resembles that of Wagner just given, and is even more complete. A man fell from a roof and fractured his right thigh. The lungs were examined at the time of his admission, and found to be perfectly healthy. On the evening of the next day he became restless, and required a hypnotic. On the third day he was worse and feverish, and that night he suddenly began to spit blood rather freely. On the fourth day there were marked dyspnœa, lividity, incessant cough with bloody frothy expectoration, fine râles first over the left and then over the right lung, and a temperature of 103.3°. The dyspnœa increased, and the patient died that night, seventy-eight hours after the accident.

Post-mortem, the right femur was found to be fractured in many pieces. One large portion, more than five inches long, was completely separated and considerably displaced. Into the upper fragment, also, there ran a long fissure communicating with the medullary cavity. The medulla of the broken portion of bone was reduced to a pulp, infiltrated with blood, and softened for some distance beyond. The large vessels of the limb were uninjured, but there was very extensive extravasation of blood among the muscles, evidently from rupture of the perforating arteries and from the medulla. When the fracture was carefully exposed, the blood which collected at the spot visibly contained oil-drops. There was no fracture of the ribs. The bronchia, trachea, and larynx were filled with bloody froth. The lower lobes of both lungs were deeply congested, and the lungs were found on section to be filled with minute but true hemorrhagic infarcts. The microscopical examination was exceedingly interesting. Almost on every section of the lungs the unmistakable appearance presented itself, of fat-drops characteristically arranged within the capillaries and smaller arteries. At one place there would be seen simply an elongated drop, at another a complex network as if the oil had been directly injected, and at still other places the drops appeared free.

This is the only case hitherto recorded in which embolism by fat seems to have proved fatal purely by pulmonary œdema. When the vessels of the brain are affected, the surgeon cannot come to a positive diagnosis, as the symptoms may be due to direct injury to the head; and, conversely, it is probable that the death of many such patients has been referred to direct cerebral injury, when it was really caused by embolism by fat. But when pulmonary œdema is demonstrably present, as in the case before recorded, after severe fracture of a bone, there is, at least, a possibility of the diagnosis of fatty embolism being made with accuracy.—*London Medical Record*, Sept. 10, 1873.

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15. *Embolism by Fat.*—Professor EBERTH, of Zürich, made, in the Section of Pathological Anatomy of the German Association for the Advancement of Science, a short but important communication on Embolism by Fat, which has lately excited fresh interest among pathologists. Eberth finds a source of the fatty-embolus in breaking down coagula in the heart. If the coagula occur in the right side of the heart, embolism of the pulmonary capillaries results, and severe dyspnœa should the condition be at all extensively distributed. Fresh coagula form upon the broken surfaces of the older ones in the heart, and these undergoing in their turn fatty degeneration, a great part of the pulmonary capillaries are filled with fatty emboli.—*Med. Times and Gaz.*, Oct. 11, 1873.

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16. *Inflammation of the Thoracic Canal.*—Dr. CHOUPPE, of Paris, has just published a thesis in which he has collected five cases of the above rare and, as yet, not well-known affection. The five cases collected by Dr. Chouppe are the only ones hitherto placed on record. In three of the cases the inflammation was secondary, and in two primary. In order to distinguish this latter form from the former, Dr. Chouppe has conducted a series of experiments on animals. The points brought out by the two cases and by the author's experiments are very interesting. In both cases the inflamed thoracic canal had thrown a quantity of pus into the general circulation through the subclavian vein, and it might be said that the patients had had a sort of pyæmia through an internal course; yet, during life, typhoid fever, meningitis, and articular rheumatism were successfully suspected, whilst purulent infection was not even thought of. Another point of interest was the obliteration of the subclavian vein in one of the cases; it could only, however, have occurred during a late period of the disease, as symptoms of pus in the blood had been previously observed. Notwithstanding the great importance of the thoracic canal, as conveying all the chyle produced by digestion, and the most part of lymph, no disturbance in the digestive organs or in the functions of nutrition was

observed. Moreover, Dr. Chouppe stated the existence of pulmonary infarctus, caused, according to him, by the pus-producing embolisms. The other symptoms were redness of the surface in various parts, inflammation of the sheaths of tendons, and of several joints. In both primary cases the onset of the disease was sudden; in one case it came on with violent pain in the stomach and intense fear; in the other with a violent and protracted fit of rigour. In the two cases these symptoms were followed by high fever, prostration, loss of strength and flesh.

Dr. Chouppe has arrived at the following conclusions on the important question which he has investigated: Primary inflammation of the thoracic canal does exist; it is attended by general symptoms of purulent infection and by local symptoms; it cannot be diagnosed as yet during life by the help of known symptoms, but its presence may be suspected; it is likely that it has been sometimes overlooked, and that it occurs occasionally.—*Lancet*, Sept. 20, 1873.

17. *Pathological Changes in Relapsing Fever.*—Dr. PONFICK, of Berlin, read before the section of Pathological Anatomy of the German Association for the Advancement of Science, etc., a paper on this subject. A very large number of post-mortem examinations were made in the Pathological Institute at Berlin during the late severe epidemic of the disease, but only a few of the most striking changes would be described on this occasion. Most of the patients died of pneumonia, with abundant exudation. This was a mere complication, but remarkable nevertheless from its frequency, and from the disease having been usually developed in the hospital without evident external cause. The spleen presented at times very considerable alterations. In about a half of the cases it was swollen, sometimes extremely so. In other cases there was infarction of the organ, very much as in endocarditis, the form and true characters of the infarct being present, without any alteration in the heart or thrombus in the veins, except in a single case. Ponfick would refer this infarction, therefore, to a local cause. The condition may advance, adhesions form, ulcerations take place, and even perforation of the diaphragm may be found. In one case the splenic swelling ended in rupture and fatal hemorrhage. A third alteration found in the spleen in some of the cases was the appearance of a number of small yellowish-white points and streaks—altered Malpighian bodies. In these spleens there were found with the microscope enormous granular cells, as in other diseases of the same organ. They could also be discovered in the bloodvessels throughout the body, sometimes in great numbers, as very large nucleated cells. Some of these were probably endothelial cells, but others were so characteristic that there could be no question of their splenic origin. Besides these cells, the bodies discovered and described by Obermeyer were found in the blood. The medulla of the bones was examined in fifteen cases, and in four of these definite appearances were observed—namely, hemorrhagic infarcts passing into yellow masses.—*Med. Times and Gaz.*, Oct. 11, 1873.

18. *Researches on Erysipelas.*—M. J. ORTH shows that erysipelas may be transmitted from one individual to another by inoculation of the blood or of the fluids discharged from the erysipelatous skin. These fluids contain characteristic bacteria (microsphacra) which, cultivated, retain the power of inducing erysipelas. But on the other hand, the destruction of these bacteria only diminishes but does not destroy the infecting power of the fluids discharged from erysipelatous parts.—*Rev. des Sciences Médicales*, Oct. 1873, from *Archiv für experimentelle Pathologie und Pharmakologie*, April, 1873.

19. *Physiological Researches on the Nature of Cholera.*—Dr. BRUNTON, in a paper read before the British Association for the Advancement of Science, expressed his belief that the search after a true remedy for cholera had hitherto been fruitless. The cause of the disease was now generally admitted to be a poison of some sort which could be transmitted from one person to another, but there must also be a proper soil for the development of the poison—in

other words, the blood and the tissues must be in such a state that it can act upon them. In the state of collapse there was constant vomiting and purging, and the intestinal canal was speedily washed clean out, the stools consisting of the secretion alone; the blood stagnated in the great veins of the thorax and abdomen, and left the skin shrunken, pale, and cold, the interior of the body being hotter even than in a state of high fever. The blood which filled the small cutaneous veins, being no longer driven forward by fresh supplies from the arteries, became completely deoxidized and black, imparting to the surface a livid hue. It still retained its power to take up oxygen and give off carbonic acid; but notwithstanding this, it passed so slowly through the pulmonary vessels that only about one-third of the usual quantity of carbonic acid was given off from the lungs, and little oxygen being taken in, there was a distressing feeling of want of breath. At the same time the voice was hoarse, low, and weak; but this seemed to be simply a consequence of the general exhaustion of the patient. The symptoms of cholera all arose from the disturbance of the circulation and the altered intestinal secretion, and it might be thought that the only way to remove those conditions would be to eliminate from the body the poison which was producing these effects, and that so long as it was still circulating in the blood any remedy which was simply intended to counteract it would be administered in vain. But the researches of Fraser and others on antagonism had shown that the elimination of a poison was not required in order to prevent its injurious or fatal action. The administration of an antidote would deprive it of its hurtful power; and as it was with other poisons so might it be with that of cholera. It occurred to Dr. Brunton that, if any poison should possess actions similar to those of the cholera poison, an antidote to it might possibly prove to be a remedy for cholera. He therefore began to look for a drug which would produce the same changes in the circulation which occurred in cholera. These were, he believed, first attributed by Dr. Parkes to spasmodic contraction of the vessels in the lung, which prevented the blood from passing through them; and this opinion found a warm supporter in Dr. George Johnson. Most of the symptoms, though not all, could be explained on this hypothesis. Professor Schmiedeberg, in investigating the physiological action of poisonous mushroom, the *Amanita muscaria* or *Agaricus muscarius*, noticed that when given to animals it caused great dyspnœa, and at the same time the arteries became empty, so that when cut across hardly a drop of blood issued from them, this being the condition which existed in cholera. Administering atropia to the warm-blooded animals suffering from these symptoms, Professor Schmiedeberg found that they at once recovered; but he had not thought at all of contraction of the pulmonary vessels as a cause of dyspnœa. He attributed it rather to excitement of the nervous centre in the medulla oblongata, which regulates the respiratory movements; and the effect of atropia itself being to excite the nervous centre, it ought, according to his supposition, to have increased instead of removing the breathlessness. When the idea that the dyspnœa was due to contraction of the pulmonary capillaries suggested itself to Dr. Brunton, he proceeded to test it by experiment. He first gave a rabbit such a dose of chloral hydrate as to deprive it of all sensibility, then put a tube into the windpipe, and connected it with a pair of bellows. He was thus able to inflate the animal's lungs at regular intervals and keep up respiration artificially when the animal could no longer breathe itself. He next opened the thoracic cavity so as to observe the slightest change in the lungs or heart. He injected a little muscarin into the jugular vein, when the lungs which had been previously rosy, became blanched; the right side of the heart swelled up, the veins passing to it became enormously distended, and the left side of the heart became almost empty. Shortly afterwards he injected a little atropia into the jugular vein. At once the effects of the muscarin disappeared, and everything assumed its normal appearance. From the want of muscarin he had not pursued his investigation, but hoped shortly to do so. Hitherto he had proceeded on the assumption that Dr. Parkes' and Johnson's theory of cholera was correct, and that the stoppage of the circulation is due in cholera, as in muscarin poisoning, to contraction of the arteries of the lungs. In poisoning by muscarin the great veins of the thorax and abdomen and the right side of the heart seemed to be almost equally distended, and exactly the same condition was found in persons who had died of cholera. But it was not certain that the right side of the heart was always so much distended during life, even when the symptoms of cholera were present in their most pronounced form. It would almost seem that the veins dilated still more in cholera collapse than they did in muscarin poisoning. Nitrite of amyl has the power of dilating the arteries throughout the body, and those of the lungs also. But it was found practically to be of no use in cholera. The pulse might become a little stronger and the surface a little warmer, but the improvement was so slight that it was hardly worth mentioning, and the patient felt no better for the medicine either when inhaled or when injected subcutaneously. If the weakness of the pulse depended only on contraction of the vessels in the lungs, this result would be astonishing; but if they supposed it to be caused by dilatation of the great veins, it was just what they would expect. From these and other facts Dr. Brunton concluded that the veins were dilated, and that, therefore, some remedy must be employed which would make them contract. There had been few experiments on the contractility of the veins, but in the condition of depression or shock following severe injuries in which the veins were much dilated, digitalis had been found useful, and it might be found useful in cholera also. Atropia had been lately tried in cholera by an American practitioner with considerable success, and it seemed deserving of more extensive trial. It would not do, however, to consider the action of any proposed remedy for cholera on the circulation alone, and to leave out of account its effect upon the intestinal secretions. He therefore set to work to discover the action of atropia upon those secretions. Since the effect of cholera upon the intestine was the same as that of division of the nerves, which was one cause of secretion, they were justified in believing that if any drug could stop the secretion in the experiment of dividing the nerves it was likely to have a similar effect on cholera. Now, atropia had a remarkable power to stop secretion from the salivary and sweat glands when their nerves were irritated, rendering the mouth and skin quite dry. What its effect on paralytic secretion in the salivary glands might be he did not know, but thinking that it might arrest the flow of fluid into the intestine he repeated Moreau's experiment, and injected some solution of atropia into the veins of an animal. The result was disappointing, and rendered the use of atropia in cholera somewhat doubtful. It was, however, difficult to foretell the effect of any drug under particular circumstances, and he should therefore continue his experiments. The points to which he wished to direct particular attention were these: (1) That, assuming Parkes' and Johnson's theory to be correct, and the impeded circulation in cholera to be due to obstruction in the pulmonary vessels, atropia was likely to prove beneficial to a certain extent; and since it had been empirically found to be useful in the disease, it ought to receive a fair trial at the hands of the medical profession. (2) The fact that the right side of the heart was not dilated during life in cholera patients, as well as the uselessness of nitrite of amyl, which dilated the pulmonary vessels, showed that Parkes' and Johnson's theory, if not erroneous, was at least imperfect, and that one of the important pathological conditions in cholera collapse consisted in an active dilatation of the thoracic and abdominal veins. Any remedy, to be useful in cholera, must have the power of counteracting the condition; and the administration of digitalis in cholera collapse might be useful. (3) The profuse secretion from the bowels in cholera was due to paralysis of some of the intestinal nerves; and a remedy which will arrest it is still a desideratum.—*Med. Times and Gaz.*, October 11, 1873.

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20. *Abscess of the Larynx simulating Croup.*—Dr. WM. STEPHENSON narrates (*Edin. Med. Journ.*, October, 1873) six cases of suppuration in the neighbourhood of the larynx: three belonging to Dr. Stephenson, one to Rilliet and Barthez, and two to Dr. Parry (*Philadelphia Med. Times*, June 14, 1873). All the patients were children; in age varying between nine weeks and four years and a half. The most striking symptoms are those present in all cases of acute glottidean obstruction; laboured stridulous breathing, and hoarse cough. Hence

the disease in question strongly resembles croup. Yet in laryngeal abscess these glottidean symptoms are not usually so rapid in development, and in reaching the point of suffocation, as is the case with true croup. In one child the laryngeal dyspnœa lasted two weeks. Usually the patient breathes most easily in an erect posture. Besides dyspnœa, dysphagia was present in all cases but one; this is a symptom which recalls retropharyngeal abscess. But the dysphagia does not seem to have been so great in the laryngeal as it is in the pharyngeal abscess; he finds no mention of return of fluids through the nose. Sooner or later, a deep-seated swelling may be detected in front, or at the side, of the thyroid cartilage. When this is opened, pus escapes. At *post-mortem* examinations pus was found spreading upwards along one or both sides of the thyroid cartilage to the parts above the rima glottidis. In four cases the suppuration about the larynx was preceded by inflammation of the lymphatic glands under the jaw and down the neck; in two cases it is not mentioned whether these glands are inflamed or not. The lymphadenitis in one child was secondary to scarlet fever, in another to smallpox, in a third to erysipelas, and in one was idiopathic. In this respect also laryngeal abscess resembles retropharyngeal abscess, which is probably due to a retropharyngeal lymphadenitis, when not due to disease of the vertebræ. The treatment is obvious, to open the abscess as soon as it can be detected in the neck. In three patients this was done, two recovered and one died.—*London Medical Record*, Dec. 3, 1873.

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21. *Artificial Production of Tuberculosis.*—Dr. E. KLEBS, from experiments made on guinea-pigs, endeavours to throw light on the question of the injurious property of milk from tuberculous cows. He concludes that the use of such milk always produces tuberculosis, commencing in the mesenteric glands, and then invading the liver and spleen, and subsequently the lungs. The tuberculous virus exists in the milk of cows which are slightly as well as gravely affected. It seems to reside in the serum of the milk, and cooking does not destroy it.—*Revue des Science Méd.*, Oct. 1873, from *Archiv für experimentalle Path. und Pharm.*, April, 1873.

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22. *Addison's Disease without Bronze Discolouration of the Skin.*—Dr. M. A. LEVERAU communicates to the *Gazette Hebdomadaire de Méd. et de Chirurg.* (Sept. 19, 1873) two cases of this, one occurring under his observation in Military Hospital Saint Martin, and the other in the practice of Dr. Kelsch, observed in the Military Hospital of Strasbourg. He draws the conclusions from these cases, as well as from analogous cases related by different authors, that—1st, the bronze discolouration of the skin is not constant in Addison's disease; and, 2d, that the existence of the disease may be diagnosticated, in the absence of the bronze discolouration, by the extreme asthenia and the uncontrollable bilious vomiting with which the subjects of it are affected.

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23. *Case of Blue Chromidrosis.*—Dr. A. W. FOOT communicated to the Med. Soc. Coll. Phys. Ir., Nov. 20th, a genuine case of this in a young lady æt. 17, small for her age, with brown hair and eyes, of an habitually high complexion, nervous, predisposed to blush, sensitive, quick, and excitable, and who had applied herself too closely to her studies. The coloured exudation affected principally the forehead and temples, it also appeared beneath the eyes, on the side of the nose, on the chin, and on the back of one hand. The blue discolouration continued to appear for a period of six months, but it is now more than three years since it was last seen.

Dr. F. ascribes the colouration of the skin in a majority of these cases to the formation of various kinds of indigo upon the outer surface of the skin; that these indigoes result from the oxidation, in various degrees, of the colourless indican, which is known to exist in the blood under many conditions, and in varying quantities, and which forms a very frequent constituent of urine, and of suppurations, and has also been found in milk. The indican, soluble in the alkaline liquor sanguinis, transudes at the thinnest and most vascular cutaneous territories, and when on the outer surface of the integument, it becomes exposed to the oxidizing influences of air, light, and heat, it is susceptible of forming indigo-blue, indigo-brown, or indigo-red, according to different circumstances.—*Irish Hosp. Gazette*, Dec. 1, 1873.

24. *Vaccinal Syphilis.*—Dr. Tilbury Fox (*Lancet*, Nov. 8, 1873) announces himself as a believer in the occurrence of true vaccinal syphilis, having been satisfied clinically that it does occur. "At the same time," he says, "I am quite sure that very many cases to which this designation is applied are in reality only instances of latent hereditary syphilis excited by the vaccination, and in which the vaccination cannot in any way be fairly blamed for the occurrence of the syphilis. The cases which simulate true vaccinal syphilis are, however, often very successful counterfeits; and a difficulty in disproving that the vaccination itself conveys the syphilitic poison to the attacked arises oftentimes from the inability to get at any history of syphilis in the parent or parents. The latter naturally try to shift upon vaccination the blame which they should bear themselves."

He relates a case which illustrates some of these points in a very admirable manner. It counterfeited vaccinal syphilis; but careful inquiry elicited the fact that the child had no doubt been fully syphilized before it had been vaccinated, and that the vaccination only *excited* the outbreak of the eruption. The father blamed the vaccination, conveniently as it turned out; for no doubt he had infected his wife just after marriage with syphilis.

25. *Atrophy and Softening of the Skeleton.*—Prof. R. W. Smith, at a late meeting of the Dublin Pathological Society (*Dublin Journ. of Med. Sci.*, Nov. 1873), detailed the following remarkable case, and exhibited the remains of the skeleton.

An unmarried female, forty years of age at the period of her decease, was admitted into one of the District Lunatic Asylums, in May, 1858, having been a short time before committed to prison as a dangerous lunatic. Nothing could be ascertained of her previous history. For a period of ten years after her admission she was able to go about, and did whatever work was assigned to her, such as sweeping rooms, washing floors, etc., and during the whole of that time made no complaint of illness or weakness of any kind.

Five years ago, however, she began to walk lame, but still made no complaint; her appetite was always good, and she rested well at night. She ceased to be able to work, and become bed-ridden for the remaining five years of her life, gradually becoming more and more enfeebled, and dwindling away in stature, until she was reduced to about two-thirds of her former height. She usually lay, during the latter portion of her wretched existence, with her head resting upon her knees. The thorax became excessively deformed, in consequence of an almost endless number of fractures of the ribs, and the thighs were bent in different directions and curiously coiled up, the bones having given way in several places. The same remarks apply to the condition of the pelvis. She died in the beginning of 1872, seemingly worn out by the obscure constitutional effects of so universal a degeneration of the osseous system.

The examination of the body proved to be most interesting, but also most laborious. The state of the internal organs may be disposed of in a few words. None of them presented any abnormal appearance worth alluding to, except the uterus, with which a few small fibrous tumours were connected. The muscles were of a pale colour, soft and flabby. With respect to the condition of the bones, it may be stated, in general terms, they were atrophied, extremely light and extremely fragile, and their interior contained a grumous, semi-fluid, greasy matter, not unlike that observed in them in the second stage of rickets as it occurs in children. The number of fractures which existed was prodigious: the ribs alone had been broken into more than one hundred fragments. The atrophied lower jaw was in three pieces; the bones of the pelvis and the thigh bones had given way in more than twenty places; the neck of each femur was broken. The scapulæ, clavicles, etc., were likewise broken; altogether, there were near two hundred fractures. The vertebræ were greatly atrophied, much diminished in vertical extent, and deeply excavated in front. The base of the skull and the bones of the face were cribriform, more especially the former.

The bones (when dried) were carefully weighed, with the following result: Cranium, 9½ oz. Tibiæ and fibulæ, 9½ oz. and 1 drachm. Bones of arms and forearms, 5 oz. and ¾ drachm. Sternum, ¼ oz. Clavicles, 1 drachm. Pelvis, 2¾ oz. Vertebræ, 4½ oz. Lower jaw, ½ oz. and 2 scruples. Femora, 4 oz. and 2 drachms. Patella, 3 drachms. Ribs, 1 oz. and 3 drachms. Scapulæ, 1 oz.

The total weight of the skeleton was about 2½ pounds, which may be set down as one-fourth of the weight of a large child at birth. Professor Smith, having alluded to the writings of Trousseau and others, respecting the identity of mollities ossium and rickets *in the adult*, and to the observations of Otto, Marchand, Beylard, etc., stated that, as it was his intention to publish a memoir upon the subject, he would not longer occupy the time of the meeting upon the present occasion.

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26. *Croton-Chloral Hydrat in Neuralgia.*—Mr. BENSON BAKER extols (*Brit. Med. Journ.*, October 25, 1873) the efficiency of this drug, and in evidence he relates the following cases:—

A. suffered from facial neuralgia of a most severe character; it affected her hearing and eyesight. She could not rest or take food. She took one grain of croton-chloral hydrat every hour. In three hours she was considerably better. After taking three more doses she was entirely free from pain.

B. suffered much from facial neuralgia dependent on decayed teeth, and had not been able to take food or sleep for three days. She was ordered croton-chloral hydrat in grain doses every hour, and obtained great relief after two doses. Six doses removed the pain completely. She slept that night.

C. This patient suffered from concussion of the spine caused by a railway accident some years ago. She has had every variety of treatment for the pain she suffers in the spine and the nerves proceeding therefrom. She took potassium bromide gr. 20, and croton-chloral hydrat gr. 1, three times a day, with marked relief and no bad symptoms.

E. This is a young dyspeptic and neuralgic patient, and suffers greatly from dysmenorrhœa. She took two-grain doses when the paroxysm of pain came on, with marked relief.

F. has been under treatment for various neuralgiæ for some years. She has had, at one time or other, almost every external and internal therapeutic agent in the *Pharmacopœia*—strychnia, iron, quinia, ammonium chloride, aconite, belladonna, iodine, bromine, blisters, hypodermic injections, galvanism, together with baths and other hygienic appliances, including change of air. In this case two-grain doses of croton-chloral hydrat every hour afforded more speedy relief from pain than any of the above remedies. After taking eight grains she was almost free from pain.

In thirteen patients who have taken croton-chloral hydrat, not a single bad symptom has been observed. In grain doses it relieves pain quickly, causes natural sleep, no subsequent headache or furred tongue. In several cases it acted as a gentle laxative.

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27. *Spasmodic Asthma treated by Chloral.*—Dr. THEODORE WILLIAMS related to the Clinical Society (Oct. 10) three cases. The first was that of a married woman, aged 23, who came from the Isle of Man, where, during the last nine months, she had suffered from asthma of so severe a character as to confine her to her bedroom for four months. Various remedies had been tried in vain. On her arrival in town, Dr. Williams did not at first pursue active treatment, hoping that the change of climate might give relief. The fit, however, coming on as usual, chloral was given in twenty-grain doses. After the first dose, she fell asleep for an hour; after the second, she slept a whole night; and a few more rendered her breathing quite clear. The drug was then omitted, and the patient remained free from asthma for more than a week. The second case is that of a lad, aged 16, who has been subject for six years to attacks occurring once a week and lasting three days. Chloral was given during a severe paroxysm, with the result of causing sleep and immediate relief to the breath-

ing. He remained in the Brompton Hospital free from attacks, in spite of several threatenings of dyspnœa, which were always averted by the timely administration of chloral. The third patient was an unmarried woman, aged 27, with a history of asthma of two years' standing ; the attacks occurring every morning, lasting two or three hours, and often recurring in the forenoon. During a very severe one, which occurred in the Bromptom Hospital, a variety of drugs were tried with little effect. Chloroform inhalation gave some relief, but caused cardiac intermission. Hypodermic injection of morphia did good, but her increasing lividity precluded its continuance. Chloral was then given in twenty-grain doses, and the first dose induced slumber and easy respiration. The drug was continued in smaller doses for upwards of two months, during which time the attacks seldom recurred, and, when they did so, were extremely mild. Once the chloral was omitted, and the asthma immediately returned, but ceased on resuming it. All the cases were complicated by catarrhal symptoms, and in the third case there was considerable emphysema, which diminished during the patient's stay in the hospital. Biermer, of Zurich, had already used chloral extensively in these cases. Dr. Theodore Williams's own experience, founded on upwards of twenty cases, was decidedly favourable to its use in spasmodic asthma. In only two cases had any bad symptoms arisen.—*Med. Times and Gaz.*, Oct. 25, 1873.

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28. *Atropia in Phthisical Sweating.*—Dr. FRANTZEL has made an extended series of researches in the Charité Hospital, in Berlin, on the effect of atropia in such cases. In a paper on the subject published in Virchow's *Archiv*, vol. lxviii. part 1 (*Allgemeine Medicin. Central-Zeitung*, August 2), he states that, having given it to seventy-five patients, he has arrived at the conclusion that it is a remedy which he can confidently recommend not only in phthisical sweating, but also in that which attends other diseased conditions, such as acute articular rheumatism and convalescence from trichinosis. Among the 75 patients were 15 cases of more or less recent cheesy pneumonia, of whom all had more or less fever with night-sweats ; 48 of distinct pulmonary phthisis, of whom 42 had hectic ; 1 of acute articular rheumatism with high fever ; 2 of ulcerative endocarditis ; and 2 of trichinosis. In the first 15 patients the sweating was in 6 completely arrested, in 7 much diminished ; in 2 there was no change. In the 48 phthisical cases the medicine had no effect in 5, in 21 the sweating was remarkably abated, and in 22 it disappeared entirely. Several of the patients in whom the atropia failed were near death when it was given. In the 8 cases of rheumatism, the atropia gave permanent relief in 5 ; in 2 it produced a marked diminution of the sweats ; in 1 it was useless. In one of the cases of ulcerative endocarditis it proved useful ; not so in the other. In the two cases of trichinosis the cessation of the acute stage of the disease and of the hectic fever attending it was followed, without any rise of temperature, by profuse night-sweats. Sulphate of atropia, in doses of a milligramme (015 grain), was given two hours before the expected access of sweating daily, for five days in succession in one case, and for three days in the other ; the result being that the sweats entirely disappeared from the first evening when it was given. In one of the cases of rheumatism, in a man aged 32, nearly all the large joints of the upper and lower limbs had been severely affected during five days ; the patient was covered with sudamina, and, when seen by Dr. Fräntzel, was bathed in sweat. A milligramme of sulphate of atropia was given immediately, and very soon there was an abatement of the sweating, which in two hours disappeared. It returned in the night, but ceased the next forenoon, after the administration of a similar dose. The atropia was thenceforth given regularly night and morning, with the effect of completely preventing the sweating. The fever lasted fourteen days. In another case of acute articular rheumatism, atropia was given, first in doses of one, then of two milligrammes, with a similar result ; and it is remarked that, on two days in the course of the disease on which it was omitted, the sweating returned. The atropia was given according to the following formula : Sulphate of atropia, 6 milligrammes ($\frac{9}{100}$ths of a grain) ; extract of gentian, sufficient to make ten pills. Dr. Fräntzel has never given larger doses than 1.2 milligramme (a little

less than one-fiftieth of a grain), from fear of producing toxic symptoms. Even doses of 0.6 and 1.2 milligramme, though unattended with any mischief, have produced slight symptoms of poisoning. In not a few cases, after taking the medicine, the patients felt itching in the neck, which, however, disappeared in one or two hours; the pupils not unfrequently acted slowly, and were sometimes dilated; and in some cases there were muscæ volitantes The atropia had to be stopped in four cases on account of diarrhœa; that this was due to the medicine, was proved by the fact that it ceased when the atropia was discontinued, and reappeared when it was resumed. What the physiological action of atropia is in arresting perspiration, Dr. Fräntzel says it is difficult to determine. He is, however, inclined to believe that the profuse sweats arise from relaxation of the walls of the vessels supplied to the sudoriparous glands; and he remarks that the researches of Meuriot, Fleming, Jones, Hayden, and Brown-Séquard have shown that atropia contracts the smallest vessels. To this are to be ascribed both the diminution of sweat and the dryness of the mouth and skin observed in cases of poisoning with belladonna and with atropia. —*Brit. Med. Journ.*, Nov. 29, 1873.

29. *Administration of Arsenic to Phthisical Sufferers.*—*L'Union Médicale* sums up Dr. JACCOUD's experience of the above, as related in the recent publication of his clinical lectures. "Arsenic powerfully ameliorates the nutritive process in chronic pulmonary phthisis. It abates nervous excitement, and possesses a marked antifebrile action, which can combat efficaciously the evening intermittent attack. Dr. Jaccoud exclusively prescribes granules of arsenious acid, containing one milligramme each of the substance ($\frac{1}{66}$ gr.). They are taken at the beginning of the two principal meals. Dr. Jaccoud begins with two granules daily, and every eight days the dose is increased, until it attains from eight to ten a day, which is the maximum dose. This maximum dose is kept on as long as there is no production of acute symptoms, with pseudo-continued fever."—*Lancet*, Nov. 29, 1873.

30. *Action of Valerian in Diabetes.*—Dr. BOUCHARD, of La Charité Hospital, has been making a trial of valerian in diabetes. In diabetes without sugar the medicament did not seem to diminish the quantity of urine, but azoturia was obviously amended. The quantity of urea discharged in the twenty-four hours was much diminished; it decreased from forty-five grammes (about eleven drachms) to ten grammes (two drachms and a half). The same results were observed in diabetes mellitus. In these cases, when there existed azoturia together with glycosuria, the quantity of urea always diminished under the influence of valerian. In some cases there was less excretion of water and sugar; but these effects seemed uncertain. But decrease in the production of urea was invariable. Valerian therefore prevents denutrition, and may be considered a saving medicament (*médicament d'épargne*). Dr. Bouchard, in respect to this latter quality, quotes the customs of various Indian tribes, among whom the warriors, during a month previous to going out to fight, make use of valerian in every shape—in baths, in frictions, and internally. They ascribe to the substance the strength and courage which they feel in going through long marches, fatigue, and privation of food. This property of valerian has been observed in arsenic and bromide of potassium. Dr. Bouchard commenced with weak doses, which he gradually increased to one ounce of extract of valerian without noticing any inconvenience.—*Lancet*, Nov. 1, 1873.

31. *Galvanism in Diabetes.*—A diabetic patient, aged 44, under the care of Dr. E. BISCHOFF (*Ærztl. Intelligentzblatt*, 23, 1873, and *Weiner Medizin. Wochenschrift*, August 2d), had for thirty-two days discharged on an average daily 2885 grammes of urine and 24.6 grammes of sugar. In consequence of intercurrent occipital neuralgia, galvanism was applied to the neck. The negative electrode was applied high on the neck, and the positive between the angle of the lower jaw and the mastoid process, then over the supraspinous fossa; and again, the positive pole being retained in the latter position, the negative pole was drawn twelve or fourteen times over the course of the occipital nerve and

the cervical spinous processes; finally, the negative pole was applied alternately in the right and left supraclavicular fossæ, and the positive in the epigastrium and over the liver. This treatment was continued, the application in each place being made for one or two minutes daily, for thirty-two days. The daily quantity of urine became reduced to 2056 grammes, and that of sugar to 11.69 grammes. Two months after the galvanism had been left off, an examination of the urine for fourteen days showed that the quantity discharged daily had risen to 2488 grammes, and that of sugar to 19.87 grammes. On the death of the patient, a year and a half afterwards, there was found to be chronic disease of the vessels in the floor of the fourth ventricle and the neighbouring parts of the brain.—*Brit. Med. Journ.*, Oct. 11, 1873.

32. *Treatment of Salivation by Atropia.*—Dr. W. Ebstein relates, in the *Berliner Klinische Wochenschrift*, for June 23d, the case of a man, aged 68, who had an apoplectiform attack, followed by paralysis of the left half of the body and of the muscles of mastication and deglutition. He had also a constant discharge of saliva, amounting to a pint or more in twenty-four hours. Applying the fact ascertained by Heidenhain, that atropia neutralizes the influence of the chorda tympani on the salivary secretion, Dr. Ebstein gave it in doses of 0.0015 gramme (about the forty-third of a grain). The result was, that the quantity of saliva discharged was reduced to about one-sixth of the amount above mentioned. After the subcutaneous injection of about one-forty-fourth of a grain of atropia over the submaxillary gland on the paralyzed side, the salivation ceased in seven minutes, and did not return for fourteen hours. The same result was produced, but after a longer interval, by injecting solution of atropia into other parts of the body or dropping it on the eye.—*Brit. Med. Journ.*, Oct. 11, 1873.

33. *New Method of Gargling the Larynx.*—Dr. Guinier, of Montpelier, described to the Clinical Society his method of gargling, for which he claims several advantages. Firstly, in the ordinary method expiration is carried on at the same time as the gargling, and prevents the gargled liquid from getting into the larynx. Secondly, the head is thrown back, and, therefore, involuntary deglutition of the liquid occurs. Thirdly, the gargled material, water, or whatever it may be, does not go into the larynx. In Dr. Guinier's method there is no respiration during the process; the head is not moved backwards; voluntary deglutition can be managed during the act; and the gargle bathes the whole of the pharynx, passes beneath the epiglottis to the vestibule of the larynx, to the arytenoid cartilages, to the ventricles of the larynx, and to the true vocal cords, so that if the laryngoscope is used at the same time, and the gargled material is transparent, the vocal cords can be seen shining through it. Dr. Guinier, speaking in French, then stated the chief advantages of his method. He also demonstrated upon himself the different methods of gargling. In the course of his remarks he said, "It is not generally known that the pharynx and uvula are insensible to ordinary touch in every one; nevertheless, such is the case." Certainly his own palate and pharynx seemed to be quite insensible.—*Brit. Med. Journ.*, Nov. 1, 1873.

SURGICAL PATHOLOGY AND THERAPEUTICS AND OPERATIVE SURGERY.

34. *Esmarch's Method of Preventing Hemorrhage during Operations.*—This method, recently adopted by Esmarch and introduced into England by Mr. Wm. Mac Cormac, to render operations bloodless, is not exactly new, but was practised by Stromeyer and Langenbeck twenty years ago, and more recently by an Italian surgeon named Silvestri. The details are as follows. An elastic bandage, about two inches and a half in width and from five to ten yards long, is firmly bound round the limb, commencing at the toes or fingers, as the